Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte ANNE-CLAUDE DOUX

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Appeal No. 2003-2127
Application No. 09/976,226

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ON BRIEF

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Before THOMAS, BARRETT, and FLEMING, Administrative Patent Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellant has appealed to the Board from the examiner's final rejection of claims 1, 2 and 7.

Representative claim 1 is reproduced below:

> 1. A method of coding a sequence of pictures, the method comprising the steps:
>
> establishing a motion vector indicating a block of pixels in a previous picture which is similar to a block of pixels in a current picture to be coded; and
>
> compressing data relating to the block of pixels in the current picture, the extent to which the data is compressed depending on a quantization parameter;
>
> controlling the quantization parameter on the basis of the motion vector.

The following reference is relied on by the examiner:

Lavagetto 5,151,784 Sep. 29, 1992

Claims 1, 2 and 7 rejected under 35 U.S.C. § 102(e) as being anticipated by Lavagetto.

Rather that repeat the positions of the appellant, reference is made to the brief (no reply brief has been filed) for appellant's positions, and to the first Office action in paper no. 5 as well as the answer for the examiner's positions.

OPINION

For the reasons set forth by the examiner in the earlier-noted Office action as well as the answer, we sustain the rejection of all claims on appeal under 35 U.S.C. § 102. Based upon the nature of the arguments presented in the brief as well the statement made at page 3 of the brief, all claims fall

together. The only feature of representative independent claim 1 on appeal disputed by appellant is the language "controlling the quantization parameter of the basis of the motion vector." In relation to figure 1 and the statements made at Lavagotto's column 7, lines 52 through 56, appellant asserts that only the weights from the motion estimator 118 in this figure are quantized by quantizer 130 and not the motion vectors themselves.

As noted by the examiner at the bottom of page 3 of the answer, the multiplexer and buffer 117 provides feedback signals to the quantizer 130 thus indicating that it is adaptive and therefore varies a quantization step or size such as to provide a quantization parameter to regulate the bit amounts to be coded by VLC 116 in Figure 1. We agree with the examiner's views that this quantizer 130 is in part responsive to the weights provided by motion estimator 118 as illustrated in figure 1. From our study of Lavagetto, we agree with the examiner's views at the top of page 4 of the answer that these weights supplied by the motion estimator 118 serve as "motion indices to the motion vectors." We therefore agree with the examiner's conclusion that "Lavagetto sufficiently discloses the step of 'controlling the quantization parameter on the basis of the motion vector' as claimed."

The examiner's characterization that the weights produced by the motion estimator 118 and supplied by the operation of switch 109 serve as "motion indices to the motion vectors" (answer, top of page 4) is amply supported according to the teachings of Lavagetto as well. There are numerous instances in this reference where the motion vectors are stated to have "corresponding optional weights" (see the bottom of column 2; column 7, lines 20 through 26; column 13, lines 19 through 26 and column 18, lines 17 through 24).

Moreover, from our study of this reference, we are independently persuaded by other teachings of the anticipatory nature of the representative subject matter of claim 1 on appeal. The discussion of the prior art in the Background of the Invention at columns 1 and 2 of Lavagetto indicates that motion vectors and weighting factors are known to be "quantized or encoded as appropriate for transmission or storage." (column 2, lines 43 through 47).

A second basis also exists according to the discussion in paragraph bridging columns 5 and 6, which teaches that the motion estimator produces motion vectors which are supplied to the motion compensator 128 through switch 108 and eventually provided

to DCT 119 which in turn feed quantizer 120 before the data is encoded by VLC 121.

A third basis exists in the discussion outlined by the examiner at column 7, lines 1 through 61. This discussion indicates that the motion estimator 118 supplies motion vectors via switch element 108 and the weights via switch 109 to the motion interpolator 129 which in turn feeds the resulting data to the upper left portion of the circuit of figure 1 and eventually again to the quantizer 120 as explained earlier.

A fourth basis also exists to maintain a rejection of the claims on appeal. Although not repeated in the answer, the first Office action indicates the examiner's initial reliance upon the showing in figure 10. This figure is characterized as presenting in flow chart form the steps required by motion estimator to generate motion vectors and weights for a block to be encoded. The discussion at column 17 beginning at line 47 through column 18 line 24 indicates again as done throughout the reference that the displacements d are considered to be motion vectors which, according to step 1029, are quantized optionally by quantizer 130 as indicated at column 18, lines 17 through 21.

In view of the foregoing, since the examiner has provided substantial evidence of the anticipatory nature of the subject matter of the claims on appeal on the basis of Lavagetto, the examiner's rejection of claims 1, 2 and 7 on appeal is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

JAMES D. THOMAS Administrative Patent Judge	)	
LEE E. BARRETT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
MICHAEL R. FLEMING Administrative Patent Judge	)	

JDT/vsh

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